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EXAMINER	
LE, DANH C	

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/816,559	CHEN ET AL.	
	Examiner	Art Unit	
	DANH C. LE	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-102* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16, 18-84,86-102* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-4, 7-10, 12,-18, 20-24, 26-38, 40-44, 46-52, 54-62, 64-66, 69-78, 80-84, 86, 88-100 are rejected under 35 U.S.C. 102(e) as being anticiapted by Molnar (US 6,768,913).**

As to claim 1, Molnar teaches a method of communication in a mobile radio system (figure 7), comprising:

forming multiple beam patterns comprising a first beam and a second beam between a first device and a second device to cover a region;

receiving a first signal using the first beam; and detecting a second signal using the second beam.

As to claim 2, Molnar teaches the method of claim 1 wherein the coverage of the region comprises Sweeping the first beam across the region (figure 7).

As to claim 3, Molnar teaches the method of claim 1 wherein the coverage of the region comprises moving the first beam to a plurality of different locations within the region (figure 7).

As to claim 4, Molnar teaches the method of claim 1 wherein the formation of the first beam comprises forming a plurality of beams to cover the region (figure 7).

As to claim 7, Molnar teaches the method of claim 6 wherein the formation of the second beam further comprises forming a plurality of beams, one of the plurality of beams receiving the signal and a second one of the plurality of beams receiving the second signal, where the second signal originates from a third device (figure 7).

As to claim 8, Molnar teaches the method of claim 6 wherein the formation of the second beam further comprises forming a shape of the second beams to receive both the signal and the second signal (figure 7).

As to claim 9, Molnar teach the method of claim 1 further comprising adjusting the second beam to track the detected signal (col.11, lines 40-col.12, line 37).

As to claim 10, Molnar teach the method of claim 9 wherein the adjustment of the second beam comprises moving the second beam (figure 2).

As to claim 12, Molnar teaches the method of claim 1 wherein the formation of the first beam comprises receiving energy through a plurality of spatially separated elements, applying a weight to the received energy from each of the elements, and combining the weighted energy (col.11, lines 40-col.12, line 37).

As to claim 13, Molnar teaches the method of claim 12 wherein the weight applied to the received energy from each of the elements is different (col.11, lines 40-col.12, line 37).

As to claim 14, Molnar teaches a method of reception (figure 7 and col.11, lines 40-col.12, line 37), comprising:

forming a first beam to cover a region, wherein the formation of the first beam comprises receiving energy through a plurality of spatially separated elements, applying a weight to the received energy from each of the elements, and combining the weighted energy;

detecting a signal in the region using the first beam;

forming a second beans to receive the detected signal, wherasin the formation of the second beam comprises receiving the energy through a second plurality of spatially separated elements, applying a second weight to the received energy from each of the second plurality of elements, and combining the second weighted energy, the second weight being a function of the weight applied to form the first beam.

As to claim 15, Molnar teaches the method of claim 14 wherein the second weight applied to the received energy from each of the second plurality of dements is different (col.11, line 40-col.12, line 37).

As to claim 16, Molnar teaches the method of claim 14 further comprising tracking the signal by adjusting the second weight applied to the received energy from each of the second plurality of dements (col.11, lines 40-col.12, line 37).

As to claim 17, Molnar teaches the method of claim l6 wherein the tracking of the signal comprises moving the second beam to a plurality of Locations by adjusting the second weight applied to the received energy from each of the second plurality of elements, and fixing the second beam in the location having the highest energy Level (col.7, lines 19-38).

As to claim 18, Molnar teaches a receiver in a mobile radio system (figure 5, 535), comprising:

an antenna (505, 510, 515) configured to form multiple beams; and

a processor (605) configured to control the antenna to search for a first signal with the fast beam and receive a first signal using the first beam, and to receive a second signal with the second beam.

As to claim 20, Molnar teaches the receiver system of claim 18 wherein the antenna is further configured to form a plurality of first beams (figure 4).

As to claim 21, Molnar teaches the receiver system of claim 18 wherein the processor is further configured to control the antenna to search for the fast signal by sweeping the first beam across a legion (figure 7).

As to claim 22, Molnar teaches the receiver system of claim 18 wherein the processor is further configured to control the. antenna to search for the first signal by moving the fast beam to a plurality of different locations within a region (figure 7).

As to claim 23, Molnar teaches the receiver system of claim 18 wherein the processor is Bather configured to control the antenna to track the second signal (figure 5)

As to claim 24, Molnar teaches the receiver system of claim 23 wherein the processor is further configured to control the antenna to track the second signal by moving the second beam (figure 7)

As to claim 26, Molnar teaches the system of claim 18 wherein the antenna comprises a plurality of spatially separated elements (col.11, line 40-col.12, line 37).

As to claim 27, Molnar teaches the receiver system of claim 26, wherein the elements comprises first and second groups, the first group configured to force the first beam and the second group configured to form the second beam (col.11, line 40-col.12, line 37).

As to claim 28, Molnar teaches the receiver system of claim 27 wherein the processor further comprises a filter configured to apply a weight to energy received from each of the first group of elements, and combining the weighted energy to form the first beam (col.4, lines 1-8).

As to claim 29, Molnar teaches the receive system of claim 28 wherein the filter is further configured to apply a different weight to the received energy from each of the first group of elements (col.11, line 40-col.12, line 37).

As to claim 30, Molnar teaches the receiver system of claim 28 wherein the processor further comprises a searcher (figure 7, 545) configured to search for the first signal as a function cf the combined weighted energy.

As to claim 31, Molnar teaches receiver system (figure 5, 6), comprising:

an antenna (505, 510, 515) configured to form first and second beams, wherein the antenna comprises a plurality of spatially separated elements, wherein the elements

comprise first and second groups, the first group configured to form the first beam and the second group configured to form the second beam;

a processor (605) configured to control the antenna to search for a first signal with the first bears and to receive a second signal with the second beam, wherein the processor further comprises a filter configured to apply a weight to energy received from each of the first group of elements, and combining the weighted energy to form the first beam, the processor further comprising a searcher configured to search for the first signal as a function of the combined weighted energy, wherein the processor further comprises a second filter configured to apply a second weight to energy received from each of the second group of elements, and combining the weighted second energy to farm the second beam, the second weight applied to the energy received from each of the second group of elements being responsive to the searcher.

As to claim 32, Molnar teaches the receiver system of claim 31 wherein the second filter further configured to apply a different second weight to the received energy from each of the second group of elements (col.4, lines 1-8).

As to claim 33, Molnar teaches the receiver system of claim 31 wherein the processor further comprises a demodulator configured to demodulate the combined second weighted energy (figure 5, 6).

As to claim 34, Molnar teaches the receiver system of claim 33 wherein the second filter is further configured to adjust the second weight applied to the received energy from each of the second group of elements as a function of the demodulated combined second weighted energy (figure 5, 6).

As to claim 35, Molnar teaches a method of communication in a mobile radio system (figure 7,8), comprising:

transmitting a signal from a first device;

forming multiple beam patterns comprising a fast beats and a second beam between the first device and a second device to search for the transmitted signal within a region;

receiving a first signal using the first beam; and

detecting a second signal using the second beam.

As to claim 36, Molnar teaches the method of claim 35 wherein the search for the signal comprises sweeping the first beam across the region (figure 7).

As to claim 37, Molnar teaches the method of claim 35 wherein the search for the signal comprises moving the first beam to a plurality of different locations within the region (figure 7).

As to claim 38, Molnar teaches the method of claim 35 wherein the formation of the first beam comprises forming a plurality of beams to cover the region (figure 7).

As to claim 40, Molnar teaches the method of claim 35 further comprising transmitting a second signal from a second base station, and detecting the second transmitted signal with the fist beam in the region, wherein the formation of the second beam comprises forming the second beam to receive both the signal and the second signal (figure 7).

As to claim 41, Molnar teaches the method of claim 40 wherein the formation of the second beam further comprises forming a plurality of beams, one of the plurality of

beam positioned to receive the signal and a second one of the plurality of beams positioned to receive the second signal (figure 7).

As to claim 42, Molnar teaches the method of claim 41 wherein the formation of the second beam farther comprises forming a shape of the second beam to receive both the signal and the second (figure 7).

As to claim 43, Molnar teaches the method of claim 35 further comprising adjusting the second beam to track the detected signal (figure 7).

As to claim 44, Molnar teaches the method of claim 43 wherein the adjustment of the second beam comprises moving the second beam (figure 7).

As to claim 46, Molnar teaches the method of claim 3S wherein the formation of the first beam comprises receiving energy through a plurality of spatially separated elements, applying a weight to the received energy from each of the elements, and combining the weighted energy (figure 8)

As to claim 47, Molnar teaches the method of claim 46 wherein the weight applied to the received energy form each of the elements is different (col.11, line 40-col.12, line 37).

As to claim 48, Molnar teaches a method of communication (figure 7), comprising: transmitting a signal from a base station;

forming a first beam at a remote station to search for the transmitted signal within a region;

detecting the transmitted signal with the first beam in the region; and

forming a second beam at the remote station to receive the signal, wherein the formation of the second beam comprises receiving the energy through a second plurality of spatially separated elements, applying a second weight to the received energy from each of the second plurality of elements, and combining the second weighted energy, the second weight being a function of the weight applied to form the first beam.

As to claim 49, Molnar teaches the method of claim 48 wherein the second weight applied to the received energy from each of the second plurality of elements is different (col.11, line 40-col.12, line 37).

As to claim 50, Molnar teaches the method of claim 48 further comprising tracking the signal by adjusting the second weight applied to the received energy from each of the second plurality of elements (col.11, line 40-col.12, line 37).

As to claim 51, Molnar teaches the method of claim SO wherein the tracking of the signal comprises moving the second beam to a plurality of locations by adjusting the second weight applied to the received energy from each of the second plurality of elements, and fixing the second beam in the location having the highest energy level (col.7, lines 19-38).

As to claim 52, Molnar teaches a remote station in a mobile radio system (figure 9, 915-950) comprising a processor configured to control an antenna to form multiple beam patterns comprising a first beam and a second beam between a first device and a second device;

receive a first signal using the first beam;

detect a second signal using the second beam; and receive the second signal using the second beam.

As to claim 54, Molnar teaches the remote station of claim 52 wherein the processor is further configured to control an antenna to form a plurality of first beams (figure 8).

As to claim 55, Molnar teaches the remote station of claim 52 wherein the processor is further configured to control the antenna to search for the first signal by sweeping the first beam across a region (figure 5).

As to claim 56, Molnar teaches the remote station of claim 52 wherein the processor is further configured to control the antenna to search for the first signal by moving the first beam to a plurality of different locations within a region (figure 7).

As to claim 57,Molnar teaches the remote station of claim 52 wherein the processor is further configured to control an antenna to track the second signal with the second beam (figure 7).

As to claim 58, Molnar teaches the remote station of claim 57 wherein the processor is further configured to control an antenna to track the second signal by moving the second beam (figure 7)

As to claim 60, Molnar teaches remote station of claim 52 wherein the processor further comprises a filter configured to receive energy from a plurality of elements of an antenna, apply a weight to the energy received from tech of the elements, and combine the weighted energy to form the first beam (see above rejection).

As to claim 61, Molnar teaches the remote station of claim 60 wherein the filter is further configured to apply a different weight to the receive energy from each of the elements (col.11, line 40-col.12, line 37).

As to claim 62, Molnar teaches remote station of claim 60 wherein the Filter is further configured to apply a different weight to the received energy from each of the elements (col.11, line 40-col.12, line 37).

As to claim 64, Molnar teaches a remote station (figure 9 and col.11, line 40-col.12, line 37) comprising a processor configured to control an antenna to search for a first signal with a first beam and to receive a second signal with a second beam, wherein the processor further comprises a filter configured to receive energy from a plurality of elements of an antenna, apply a weight to the energy received from each of the elements, and combine the weighted energy to form the fist beam, and

the filter is further configured to apply a different weight to the received energy from each of the elements, and the processor still further comprises a searcher configured to search for the first signal as a function of the combined weighted energy, wherein the processor further comprises a second filter configured to apply a second weight to energy received from each of a second plurality of elements of the antenna, and to combine the weighted second energy to form the second beam, the second weight being a function of the weight applied to form the first beam.

As to claim 65, Molnar teaches the remote station of claim 64 wherein the second filter is further configured to apply a different second weight to the received energy from each of the second plurality of elements (col.11, line 40-col.12, line 37).

As to claim 66, Molnar teaches he remote station of claim 64, wherein the processor further comprises a demodulator configured to demodulate the combined second weighted energy (col.11, line 40-col.12, line 37).

As to claim 69, the claim is a computer software of claim 1; therefore, the claim is interpreted and rejected as set forth as claim 1.

As to claim 70, the claim is a computer software of claim 2; therefore, the claim is interpreted and rejected as set forth as claim 2.

As to claim 71, the claim is a computer software of claim 3; therefore, the claim is interpreted and rejected as set forth as claim 3.

As to claim 72, the claim is a computer software of claim 4; therefore, the claim is interpreted and rejected as set forth as claim 4.

As to claim 74, the claim is a computer software of claim 6; therefore, the claim is interpreted and rejected as set forth as claim 6.

As to claim 75, the claim is a computer software of claim 7; therefore, the claim is interpreted and rejected as set forth as claim 7.

As to claim 76, the claim is a computer software of claim 8; therefore, the claim is interpreted and rejected as set forth as claim 8.

As to claim 77, the claim is a computer software of claim 9; therefore, the claim is interpreted and rejected as set forth as claim 9.

As to claim 78, the claim is a computer software of claim 10; therefore, the claim is interpreted and rejected as set forth as claim 10.

As to claim 80, the claim is a computer software of claim 12; therefore, the claim is interpreted and rejected as set forth as claim 12.

As to claim 81, the claim is a computer software of claim 13; therefore, the claim is interpreted and rejected as set forth as claim 13.

As to claim 82, the claim is a computer software of claim 14; therefore, the claim is interpreted and rejected as set forth as claim 14.

As to claim 83, the claim is a computer software of claim 15; therefore, the claim is interpreted and rejected as set forth as claim 15.

As to claim 84, the claim is a computer software of claim 16; therefore, the claim is interpreted and rejected as set forth as claim 16.

As to claim 86, Molnar teaches a receiver in a mobile radio system (figure 5, 535), comprising:

means for forming multiple beams through an antenna to search for a first signal;

means for receiving a first signal using the first beam; and

means for forming a second beam through the antenna to receive a second signal;

means for receiving the second signal using the second beam.

As to claim 88, Molnar teaches the receiver system of claim 86 wherein the means for forming a first beam comprises means for forming a plurality of first beams (figure 5).

As to claim 89, Molnar teaches the receiver system of claim 85 further comprising means for sweeping the first beam across a region (figure 7).

As to claim 90, Molnar teaches the receiver system of claim 86 further comprising means for searching fvr the first signal by moving the first beam to a plurality of different locations within a region (figure 7).

As to claim 91, Molnar teaches the receiver system of claim 86 further comprising tracking means for tracking the second signal with the second beam (figure 7).

As to claim 92, Molnar teaches the receives system of claim 91 wherein the tracking means tracks the second signal by moving the second beam (figure 7).

As to claim 94, Molnar teaches the receiver system of claim 86 wherein the means for forming a first beam comprises means for receiving energy from a plurality of elements, means for applying a weight to the energy received from each of the elements, and means for combining the weighted energy to form the fast beam (Figure 7).

As to claim 95, Molnar teaches the receiver system of clairq 94 wherein the weight applied to the received energy from each of the plurality of elements is different (Figure 7).

As to claim 96, Molnar teaches the receiver system of claim 94 further comprising search means for searching for the first signal as a function of the combined weighted energy (col.11, line 40-col.12, line 37).

As to claim 98, Molnar teaches a receiver system (figure 7, 8), comprising:

means for forming a first beam through an antenna to starch for a first signal, wherein the means for forming a first beam comprises means for receiving energy from

a plurality of elements, means for applying a weight to the energy received from each of the elements, and means for combining the weighted energy to form the first beam; further comprising search means for searching for the first signal as a function of the combined weighted energy

. means for forming a second beam through the antenna to receive a second signal, wherein the means for forming a second beam further comprising means for receiving energy from a second plurality of elements, means for applying a second weight to

energy received from tech of a second plurality of elements, and means for combining the weighted second energy to form the second beams, the second weight being a function of the weight applied to form the first beam.

As to claim 99, Molnar teaches a receiver system (figure 7, 8), comprising:

means for forming a first beam through an antenna to search for a first signal, wherein the means for forming a first beam comprises means for receiving energy from a plurality of elements, means for applying a weight to the energy receive from each of the elements, and means for combining the weighted energy to form the first beam;

. further comprising search means for searching for the first signal as a function of the combined weighted energy;

' means for forming a second beam through the antenna to receive a second signal, wherein the means for forming a second beam further comprising means for receiving energy from a second plurality of elements, means for applying a second weight to energy received from each of a second plurality of elements, wherein the

second weight Applied to the received energy from each of the second plurality of elements is different, and means for combining the weighted second energy to form the first beam.

As to claim 100, Molnar teaches a receiver system (figure 7, 8), comprising:

means for forming a first beam through an antenna to search for a first signal, wherein the means for forming a fast beam comprises means for receiving energy from a plurality of elements, means for applying a weight to the energy received from each of the elements, and means for combining the weighted energy to form the first beam; further comprising search means for searching for the first signal as a function of the combined weighted energy

means for forming a second beam through the antenna to receive a second signal, wherein the means for forming a second beam further comprising means for receiving energy from a second plurality of elements, means for applying a second weight to energy received from each of a second plurality of elements, and means for combining the weighted second energy to form the first beam; and

further comprising demodulation means for demodulating the combined second weighted energy.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 5, 6, 11, 19, 39, 45, 52, 58, 63, 67, 73, 79, 87, 93, 97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Molnar .**

As to claim 5, 6, 11, 63, Molnar teaches the method which the formation of the first beam comprises forming a directional beam. Molnar fails to teach omni-directional, multipath signal, changing a shape of the second beam. The Examiner takes Official Notice that the reciting limitations are known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of reciting limitations into the system of Molnar in order to enhance the system of the method and apparatus for forming beam searching in a radio communication system.

As claims 19, 25, 39, 45, 52, 58, 73, 79, 87, 93, these claims have the same limitations as claims 5, 6, 11, 63, therefore; these claims are interpreted and rejected as set forth as claims above.

4. **Claims 63, 67, 68, 97, 101, 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Molnar in view of Zhang (US 2002/0034017).**

As to claim 63, Molnar teaches the remote station of claim 62, which the search for the first signal being a function of the signal. Molnar fails to teach the searcher comprises a correlator configured to de-spread a pilot signal . Zhang teaches a correlator configured to de-spread a pilot signal (paragraph 0049). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made

to provide the teaching of reciting limitations into the system of Molnar in order to avoid unnecessary computation.

As to claim 67, the combination of Molnar and Zhang teaches the remote station of claim 66 wherein the demodulator comprises a second correlator configured to despread the second signal (paragraph 0049).

As to claim 68, the combination of Molnar and Zhang teaches the remote station of claim 67 wherein the second filter is further configured to adjust the second weight applied to the received energy from each of the second plurality of elements as a function of the despread second signal (paragraph 0049).

As to claim 68, the combination of Molnar and Zhang teaches receiver system of claim 96 wherein the search means comprises means for despreading a pilot signal, the search for the first signal by the search means being a function of the pilot signal (paragraph 0049).

As to claim 101, Molnar teaches a receiver system (figure 7, 8), comprising:

means for forming a first beam through an antenna to search for a fast signal, wherein the means fair forming a first beg comprises means for receiving energy firm a plurality of elements, means four applying a weight to the energy received from each of

the elements, and means for combining the weighted energy to form the first beam; further comprising search means for searching for the first signal as a function of the combined weighted energy

means for forming a second beaux through the antenna to receive a second signal, wherein the means for foaming a second beam further comprising means for

receiving energy from a second plurality of elements, means for applying a second weight to

energy received from each of a second plurality of elements, and means for combining the weighted second energy to form the first beam; and

further comprising demodulation means for demodulating the combined second weighted energy.

Molnar fails to teach the demodulation means comprises means for despreading the second signal. Zhang teaches despreading the second signal (paragraph 0049). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of reciting limitations into the system of Molnar in order to avoid unnecessary computation.

As to claim 102, Molnar teaches a receiver system (figure 7, 8), comprising

means for forming a first beam through an antenna to search for a first signal, wherein the means for forming a first beam comprises means for receiving energy from a plurality of elements, means for applying a weight to the energy received from tech of the elements, and means for combining the weighted energy to form the first beam; further comprising search means for searching for the signal as a function of the combined weighted energy

means for forming a second beam through the antenna to receive a second signal, wherein the means for forming a second beam further comprising means for receiving energy from a second plurality of elements, and wherein the means for forming a second beam comprises means for adjusting the second weight applied to the

received energy from each of the second plurality of elements as a function of the second signal,

and means for applying a second weight to energy received from each of a second plurality of elements, and means for combining the weighted second energy to form the fast beam; and

further comprising demodulation means for demodulation the combined second weighted energy.

Molnar fail to teach the demodulation means comprises means for despreading the second signal. Zhang teaches for despreading the second signal. Zhang teaches despreading the second signal (paragraph 0049). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of reciting limitations into the system of Molnar in order to avoid unnecessary computation.

Allowable Subject Matter

Claims 17 and 85 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 17 and 85 the combination of Molnar and Zhang teaches the tracking of the signal, the combination of Molnar and Zhang fails to teach moving the second beam to a plurality of locations by adjusting the second weight applied to the received energy from each of the second plurality of elements, and fixing the second beam in the location having the highest energy level.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Alamouti et al (US 6,600,776) teaches vertical adaptive antenna array for a discrete multitone spread spectrum communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANH C. LE whose telephone number is 571-272-7868. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM TROST can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 29, 2005

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